



# Movement Differences Among Some People with Autism: an Impetus to Re-Examine Behavioral Issues

Contributed by [Beverly Vicker](#)

## Background

Beliefs, attitudes, and old information about autism appear to need constant re-examination as new concepts, information, and treatment approaches continuously become available. In recent years professionals and parents have reflected about concepts such as *inclusion* and *theory of mind* and interventions ranging from holding therapy to manual signing. *Movement differences* has become a contemporary topic in the area of autism in the 1990's, although the neurobehavioral construct itself is referenced in pre-1990's medical chronicles. Present discussion of the topic with regard to individuals with autism represents a broadening of application and reflection beyond the original documented disability groups. The significant questions and possibilities presented by the topic of movement differences compel people with an interest in autism to engage in some personal re-assessment. This paper presents some basic information regarding the nature of movement differences and provides suggestions as to its functional application. Readers are urged to read full text discussions by Donnellan & Leary (1995), and Leary & Hill (1996), and to remember that movement difference is a construct and not a new disability category.

Recent widespread awareness of selected aspects of movement differences began with the publications and trainings of Rosemary Crossley (1980) and Doug Biklen (1990) on the technique of facilitated communication. The need for an assisted movement/emotional support technique (i.e., facilitated communication) arose from supposition. Later, direct confirmation occurred when selective nonverbal individuals indicated that they did indeed have difficulty initiating or sustaining independent coordinated motor movements. Controversy still surrounds the use of the facilitated communication technique in terms of consistent authentic authorship of messages. As part of the controversy, there has been speculation that many nonverbal individuals who were introduced to the facilitated technique may not have had a movement difference or a disturbance of the magnitude that prevented them from using more conventional and independently accessed augmentative means of communication (e.g., Liberator™, DynaVox®, non-commercial manual communication boards). There is no significant data to support or refute the prediction about prevalence. In comparison to dialogues and disagreements about facilitation as a technique, discussion about the more broadly defined construct of movement ability or difference has been less provocative. If anything, the new information has encouraged others to notice potential movement differences in individuals with autism that had been previously overlooked and to engage in pondering about new interpretations of human behavior.

The reframing of observations that derived from the facilitated communication movement, however, proved to be just the tip of the iceberg in the topic area of movement differences. Many neurologically based disorders such as Parkinson's and Tourette's appear to share symptoms that are also found in some individuals with autism. The neurobiological basis for autism per se, however, is not considered to be the causal agent for the movement difference symptoms that have been noted but there does seem to be some relationship. Selective examples of shared characteristics or symptoms include the following: repetitive movements, abnormal gait, abnormalities in muscle tone, lack of imitation, self injurious behavior, echolalia, and difficulty initiating, stopping or switching actions (Donnellan & Leary, 1995).

On a semantic basis one would guess that movement differences literally referred to observable motor movement patterns. Instead, movement differences, as described by Donnellan and Leary, and others, has a more figurative meaning. While the construct does include movement patterns or actions, it also encompasses posture, speech, perception, thought, attention, consciousness, motivation, memories, and emotion. Overlaid on each of these is the issue of volitional or voluntary control (Donnellan & Leary, 1995; Leary & Hill, 1996). The more figurative or metaphorical nature is evidenced by discussions of someone's internal mobility to cease thinking about a particular thought, to switch a perceptual focus, or to combine memories with new thoughts. Both Leary and Donnellan define movement differences through visual information displays and examples rather than through an exact dictionary-type of definition.

## Recognizing Possible Instances of Movement Differences

Recognition of movement differences as a factor in observed behavior certainly will force rethinking in the area of behavioral analysis. It will no longer be possible to only hypothesize about the probable purpose or motivation for a given behavior. Since specific actions may not be under the individual's volitional control, there may be a mismatch between personal motivation and the action observable by others. There also may be a mismatch between a service provider's hypothesis about the intent or benefit of an action and the actual intent of the person with a movement difference. The mismatches can best be illustrated by some common examples. Movement differences may be a co- occurring factor or the sole factor behind the observed behavior in any of the illustrations and the hypothesized intent of the behaviors.

### Examples of Real Situations

*John paces the perimeter of the kitchen in an intense manner; he ignores directives to find something else to do.*

#### **Possible function of the behavior:**

John is anxious about an upcoming event or he has the need to relieve built up tension.

#### **Possible movement difference:**

John has difficulty ceasing the motor behavior, switching his thoughts to an internal activities option menu, and initiating body movement to begin the selected activity.

*Brian is told to get ready for gym class; he begins screaming.*

#### **Possible function of the behavior:**

Brian is sound sensitive and he is avoiding the transition to a noisy environment.

#### **Possible movement difference:**

Brian is unable to execute all of the motor steps or sequence involved in getting ready for gym class, (i.e., putting away his pencil, returning a book to the library shelf, getting his jacket, lining up with his classmates to transition to another building for gym). Shifting his thoughts regarding what he must do with his body at each step may be difficult. The movement difficulties may be instigated or compounded by the challenge of transitioning to an environment that is aversive to a sound sensitive individual.

*Sarah enjoys assembling puzzles. She reaches to insert a puzzle piece but appears to stop for a minute before moving on to insert the piece.*

**Possible function of the behavior:**

Sarah was waiting for a verbal cue to continue the action which also would have resulted in a brief social interchange with her favorite staff member. Second, she could have been distracted by the shininess of the table upon which she was assembling the puzzle. As a third option, Sarah could have had a seizure.

**Possible movement difference:**

Sarah experienced a freezing or blockage in her ability to smoothly execute a volitional motor plan.

*Gary periodically bites his hand and makes sounds as he tries to manipulate his shirt buttons while dressing in the morning.*

**Possible function of the behavior:**

Gary is expressing his frustration with the difficulty level of the task.

**Possible movement difference:**

Gary is unable to execute the complex movements involved in buttoning his shirt. He finds it difficult to shift his thoughts from memories of past difficulties and frustration with the present episode.

*Tim takes a long time to think of what he wants to say. By then the relevant moment for a response is gone. Usually his second grade teacher and classmates are talking about a different aspect of the topic when he contributes what appears to be an off task comment. He gets angry when the other students laugh at what appear to be non sequitur comments.*

**Possible function of the behavior:**

Tim is protesting that the other students laughed at his contribution to the class discussion. He has experienced an affront to his dignity.

**Possible movement difference:**

Tim is unable to quickly move from thought to thought, to sift the important aspects, and then combine those thoughts while executing a motor movement plan.

## Implications Emanating From the Construct of Movement Difference

If people with autism are having difficulty with performance in given environments, such as in the situations above, then specific adaptations or accommodations may be implemented. Although the latter two terms, "adaptation" and "accommodation" are frequently used as synonyms, the terms seem to have different connotations in the movement differences literature. The term "adaptations" refers to how or what the environment or other people may change or do to circumvent a specific problem. Adaptations are a natural component of positive behavior supports, and usually reflect strategies suggested and implemented by others. For example, the use of a schedule to aid Brian make transitions in situation two and the use of a button hook to aid Gary to independently button his shirt in situation four represent external adaptations. However, adaptations do not always need to be something material. With Jeff, a child who finds it difficult to halt his forward fast- walk movement, his classmates may employ

a touch cue to stop him, or they simply may get out of his way. In situation three, if Sarah's recovery time from the freeze blockage had lasted longer, someone might have used a touch cue at the shoulder to enable her to resume the forward motion toward the puzzle. In contrast to accommodations, adaptations are devised by others and may or may not reflect input from the individual with movement differences.

Donnellan and Leary (1995) use the term *accommodation* when they are referring to strategies that directly help the person with a movement difference adjust or work through his or her problem. This assumes that the expert resource about movement differences or difficulties is the individual. Without direct information and feedback, everyone is only guessing about the existence of a difference, whether the person already has some strategies to deal with the situation, and how the person is emotionally coping with his or her challenges. Unfortunately, while just asking may be a first strategy for the caregiver, the situation may not be quite that simple. The explicitness of the information obtainable may depend on the person's ability to self-analyze, a meta-cognitive skill, and the individual's ability to communicate in a verbal or augmentative medium. With reference to self-analysis, can the person objectively think about his thoughts or his motor movement patterns? Can he identify what is difficult, and when or how he works through a movement difficulty? Has he or she had many opportunities to develop or practice using this type of thinking? It is from recent autobiographies and biographies such as Donna Williams' books (1992, 1994) and *There's a Boy in There* (Barron and Barron, 1992) that care providers are developing more understanding of what it might be like to experience movement difficulties (Leary & Hill, 1996). Some individuals may be very aware of their differences and may have highly effective personal strategies for overcoming periodic challenges. Specific strategies, however, may or may not be considered effective or socially acceptable by the person's peers or care givers. For example, Jeff, the child who had difficulty stopping his forward movement, might use the strategy of heading to a wall to stop himself. He most likely found this strategy to be effective in some situations and not in others (i.e., when no wall is available). He may need acceptance and encouragement to use his personal strategy, but also assistance in defining a plan to accommodate more open space conditions.

In addition to meta-cognitive or self-analysis skills, the individual with movement differences also needs an adequate means of communication for interactive discussion. Even if a person appears to be quite verbal, he or she still may need print displays with specific vocabulary or phrases to provide him or her with support during what could be very emotional discussions about a difficult and personal topic. Augmentative means, with or without facilitation, can be considered as another alternative to enable more effective expressive output.

In summary, this brief orientation suggests that some individuals with autism may share movement difference characteristics with people who have other disabilities. It appears that what care givers observe and interpret may not always reflect an accurate guess or hypothesis about specific situations. Many instances of movement differences may not be initially obvious and they may reflect internal movement problems. Since differences vary along a continuum and may be influenced by emotional state, circumstances, effective strategies, and such, variability in performance may be the norm for some individuals. In some situations, the person with autism may be receptive to suggestions or training to develop effective strategies to overcome a given situation. In other instances, professionals and families may need to put aside their attitudes or beliefs and respectfully allow or encourage the individual to use his or her preferred way of managing or coping with the movement difference. Much has yet to be explored and developed in this new area of interest; much will need to be scrutinized as the flow of information in the area of autism continues.

## References

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